See wikipedia page on Gipps' model.

Go to section on "Constructs leading to development". It is the very first formula we need in this section, which governs the "free acceleration" when we are not constrained by the vehicle in front.

$$V_n(t+\tau) \leq V_n(t) + 2.5 a_n \tau \left(1 - \frac{v_n}{V_n}\right)\left(0.025 + \frac{v_n}{V_n}\right)^{1/2}$$

But unlike Gipps, we should think in continuous time, and acceleration $\dot{v}_n(t)$ is given roughly by

$$\dot{v}_n(t) \simeq \frac{v_n(t+\tau) - v_n(t)}{\tau}$$

So dropping all the subscripts etc. (which refer to the index of the vehicle under consideration) we get

$$\text{accln} \quad \dot{v} = 2.5\, a \left(1 - \frac{v}{V}\right)\left(0.025 + \frac{v}{V}\right)^{1/2}$$

I have put an $=$ here, because I am assuming you will want to realise the maximum possible acceleration according to the model.

Notation: $\dot{v}$ vehicle's accln
v vehicle's speed
V vehicle's target speed, NB not same as max speed.
a is an acceleration parameter, to be experimented with. A couple of metres per second squared.

I had a little think about units. I think the equation is agnostic to the units, so you can safely use ms^{-1}, ms^{-2} etc. The 0.025 and 2.5 are actually dimensionless constants, if you think about it.

NB the wikipedia page is not bad, but a little simple minded. At least it references my key article. I think the page is written by a very nice young Greek lady, if you would like to be introduced, let me know...